What is claimed is:

1. A fuel cell device for providing electrical energy, said fuel cell device comprising:

a first storage tank for storing a hydrogen-based fuel;

a second storage tank for storing an oxidant;

a fuel cell portion having an electron input;

an electrolysis portion having an electron output; and

an electrolyte recovery unit.

2. The fuel cell device according to claim 1 wherein said first storage tank is operatively engaged to said fuel cell portion.

3. The fuel cell device according to claim 2 wherein said first storage tank has a first pressure valve to regulate fuel pressure within said first storage tank.

4. The fuel cell device according to claim 3 wherein said first storage tank has a first flow control valve to regulate fuel flow from said first storage tank to said fuel cell portion.

5. The fuel cell device according to claim 4 wherein said hydrogen-based fuel is selected from the group consisting essentially of hydrogen gas, hydrocarbons, hydrazine, and alcohol.

6. The fuel cell device according to claim 1 wherein said second storage tank is operatively engaged to said fuel cell portion.

7. The fuel cell device according to claim 6 wherein said second storage tank has a second pressure valve to regulate oxidant pressure within said second storage tank.

8. The fuel cell device according to claim 7 wherein said second storage tank has a second flow control valve to regulate oxidant flow from said second storage tank to said fuel cell portion.

9. The fuel cell device according to claim 8 wherein said oxidant is selected from the group consisting essentially of oxygen gas and air.

10. The fuel cell device according to claim 1 wherein said fuel cell portion is integrally connected to said electrolysis portion.

11. The fuel cell device according to claim 10 wherein said fuel cell portion further comprises at least one electrode

12. The fuel cell device according to claim 11 wherein said at least one electrode is a cathode.

13. The fuel cell device according to claim 12 wherein said at least one electrode is an anode.

14. The fuel cell device according to claim 13 wherein said fuel cell portion further comprises an ion conducting membrane to allow hydrogen ions from said hydrogen-based fuel to diffuse across said membrane to interact with oxygen ions from said oxidant.

15. The fuel cell device according to claim 14 wherein said fuel cell portion further comprises a glass separator to prevent undesired contact between said hydrogen-based fuel and said oxidant.

16. The fuel cell device according to claim 15 wherein said fuel cell portion further comprises a glass liquid separator to divide said fuel cell portion from said electrolysis portion.

17. The fuel cell device according to claim 16 wherein said electron input is a conductor wire.

18. The fuel cell device according to claim 17 wherein said conductor wire is platinum.

19. The fuel cell device according to claim 1 wherein said fuel cell combines said hydrogen-based fuel with said oxidant to produce electrical power and waste water.

20. The fuel cell device according to claim 1 wherein said electrolysis portion further comprises at least one plate electrode.

21. The fuel cell device according to claim 20 wherein said electrolysis portion contains an electrolyte.

22. The fuel cell device according to claim 21 wherein said electrolyte is an acid.

23. The fuel cell device according to claim 22 wherein said acid is sulfuric acid.

24. The fuel cell device according to claim 23 wherein said electrolysis portion further comprises an open glass separator.

25. The fuel cell device according to claim 24 wherein said electrolysis portion splits said waste water into hydrogen and oxygen.

26. The fuel cell device according to claim 25 wherein said electrolysis portion provides hydrogen to said first storage tank.

27. The fuel cell device according to claim 25 wherein said electrolysis portion provides oxygen to said second storage tank.

28. The fuel cell device according to claim 25 wherein said electron output is said conductor wire.

29. The fuel cell device according to claim 28 wherein said electrolysis portion is operatively engaged to said electrolyte recovery unit.

30. The fuel cell device according to claim 1 wherein said electrolyte recovery unit further comprises an overflow intake to accept excess electrolyte.

31. The fuel cell device according to claim 30 wherein said electrolyte recovery unit further comprises a return to provide electrolyte flow into said electrolysis portion.

32. The fuel cell device according to claim 30 wherein said electrolyte recovery unit further comprises a return to provide electrolyte flow to a third storage tank for future use.

33. The fuel cell device according to claim 1 wherein said fuel cell device further comprises a heat exchanger to control the temperature of said fuel cell.

34. The fuel cell device according to claim 1 wherein said fuel cell device may be stacked with other fuel cell devices to form a plurality of fuel cell devices.

35. A method for generating electrical energy using a fuel cell device having a fuel cell portion and an electrolysis portion, said method comprising the steps of :

storing a hydrogen-based fuel in a first storage tank;

storing an oxidant in a second storage tank;

supplying said hydrogen-based fuel, said oxidant, and electrons to said fuel cell portion;

combining said hydrogen-based fuel and said oxidant in said fuel cell portion to generate electrical energy and waste water;

supplying said waste water to said electrolysis portion having an electrolyte;

splitting said waste water into hydrogen and oxygen;

supplying said hydrogen from said electrolysis portion to said first storage tank;

supplying said oxygen from said electrolysis portion to said second storage tank;

providing flow of said electrolyte to an electrolyte recovery pump, said flow being redirected.

36. The method according to claim 35 wherein a first pressure valve controls fuel pressure within said first storage tank.

37. The method according to claim 36 wherein a first flow control valve controls the supply of said hydrogen-based fuel from said first storage tank to said fuel cell portion.

38. The method according to claim 35 wherein a second pressure valve controls oxidant pressure within said second storage tank.

39. The method according to claim 38 wherein a second flow control valve controls the supply of said oxidant from said first storage tank to said fuel cell portion.

40. The method according to claim 35 wherein a conductor wire supplies electrons to said fuel cell portion.

41. The method according to claim 40 wherein said conductor wire is platinum.

42. The method according to claim 35 wherein said electrolyte further comprises unreacted waste water.

43. The method according to claim 35 wherein said electrolyte recovery unit redirects electrolyte flow to said electrolysis portion.

44. The method according to claim 35 wherein said electrolyte recovery unit redirects electrolyte flow to a third storage tank.

45. The method according to claim 35 wherein said method further comprises the step of controlling the temperature of said fuel cell device.

46. The method according to claim 45 wherein said controlling is performed by a heat exchanger.